COMPARISON OF SPECIAL EDUCATION LABELING IN PRESCHOOL VERSUS ELEMENTARY SCHOOL AGE CHILDREN

BY

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Howard Becker's theory of social deviance established the importance of labels, applied to persons, in creating and maintaining deviant status by influencing the expectancies of significant persons within the social system. Because of the effects of special education classifications (labels) on the expectancies of the child, parents, teachers and others, the application of these labels becomes a decision with enduring consequences.

The purpose of this study was to investigate differences in the stability of special education labels applied to a preschool and an elementary school age group. Specifically, the study sought to determine if labels applied to preschool children changed more frequently than labels applied after children had begun elementary school. Additionally, the relative stability among the categories, educable mentally retarded (EMR), trainable mentally retarded (TMR) and specific learning disabled (SLD), was examined. And, finally, the variables of grade (preschool or elementary), initial label, sex and race were explored in regard to label change.

Students served by the Orange County School Board in central Florida were the subjects of this study. Data were accumulated on 298 children referred for reevaluation after placement in special education programs as preschool or elementary school students. Analysis was accomplished through calculation of contingency tables, correlation coefficients and application of discriminant function analysis.

The findings of this study showed that labels changed significantly more frequently when applied to preschool than to elementary school children. Among the categories included in the analysis, the EMR label showed the most instability. When interactions among independent variables were examined, the effect of the grade at the time of initial classification and the type of label applied outweighed all other interactions. When the various subgroups were compared, it was determined that preschool, white, EMR males changed labels more frequently than any other subgroup.

The results of this study suggested that, because of the instability of labels applied to preschool children, classification procedures for this group should be carefully reviewed and alternatives such as noncategorical programs should be investigated.

CHAPTER I
THE PROBLEM

Problem Statement

Diagnostic classification prior to special education placement has frequently been criticized as a potentially harmful process. Researchers have found that diagnostic labels convey powerful meanings that may influence a teacher's understanding of and response to a child (Algozzine, Mercer & Countermine, 1977; Carroll & Reppucci, 1978; Seitz & Geske, 1976). Tuckman (1972) stated that "in addition to lowering teacher expectations, the label creates an emotional upheaval, degraded self-image, and self-fulfilling prophecy of lowered potential" (p. 169).

Because of these expectancy effects, the accuracy of initial classifications becomes crucial. If the label is inaccurate or unstable, the expectancy effects may remain even if the label is later corrected. The purpose of this study was to investigate the relative stability of special education labels applied to preschool children and to elementary school age children who had attended special education programs and had been referred for reevaluation at teacher request or as part of the required three year reassessment. The problem under consideration was one that could best be studied using experimental methods. However, that would have necessitated identification of a group of handicapped children and assignment of one section to a special education program and assignment of the other section to a control condition of "no placement." Since this study dealt with human subjects, denial of appropriate educational placement involved serious ethical considerations. Because of these ethical constraints, the experimental method was not applied. The study relied upon data obtained from real children placed in actual special education programs in one county school system.

Justification for the Study

Subsequent to the enactment of the Education for All Handicapped Children Act of 1975, PL 94-142, the number of handicapped preschool children enrolled in special education programs increased nearly 20% nationally from 196,223 in 1976 to 231,812 in 1979 (WESTAR, 1981). This law mandated that a free, appropriate, public education be provided for all handicapped children between the ages of three and twenty-one (Abeson & Zettel, 1977; Cole & Dunn, 1977; Powell, 1978; "Public Law 94-142," 1981; Shanker, 1980). Its provisions brought special attention to the population of three to five-year-old children, a group previously considered the responsibility of parents and private preschool programs and, therefore, unserved by public schools (Cohen, Semmes & Guralnick, 1979).

Two sources of funding for preschool programs were provided by PL 94-142, state entitlement monies and preschool incentive grants. State entitlement money was allocated according to the number of children identified, classified and served in special education programs. Preschool children generated the same amount of money as special education children six years of age and older according to the appropriation formula of the law. The second source of funding, preschool incentive grants, was established as an amendment to the law to encourage states to develop preschool programs. Although PL 94-142 included the three to five year old group in its provisions, it exempted states whose statutes were not consistent with the law. That is, those states whose educational practices designated five as the entry school age were not bound to the requirements of the law. In recognition of the importance and cost effectiveness of early intervention with handicapped children, preschool incentive grants were established to encourage states to develop educational programs for this age group. The preschool incentive grant program provided funds to initiate, improve and expand services for these young children (Cohen et al., 1979).

The emphasis on programming for handicapped preschoolers offered the advantage of early intervention and the possible prevention of more serious learning problems. However, because funding was accomplished categorically, it was required that children be tested, diagnosed and labeled before being assigned to programs. While this process may have been fiscally effective, its application to a preschool population was limited by the unique characteristics of this group. Dangers in early identification and placement were related to difficulties of assessment, variabilities in child development, and possibilities of misdiagnosis and inaccurate categorization (Mercer, Algozzine & Trifiletti, 1979).

Assessment of young children is limited by variations in behavior and attention. Distractibility, short attention span and separation anxiety may influence a child's performance and limit the accuracy of the evaluation (Cataldo, 1981). Many of the tests used to identify disabilities are somewhat unreliable with young age groups (Divoky, 1974). Keogh (1977) stated that children may be identified as "at risk" on the basis of inconclusive, fragmentary and selective test results. Identification and diagnosis of problems such as mild retardation have been less accurate than identification of more severe handicapping conditions (Aldrich & Holliday, 1971). Definitions of disability categories are often vague and may differ from state to state. An analysis of state definitions of preschool handicapped programs showed that only seven states of forty-four surveyed had determined definitions specific for the preschool population (Lessen & Rose, 1980). Disability categories have been designed for school age populations and often are not appropriate for preschool groups. Keogh (1977) described early identification as a predictive activity. She stated, "We are trying to identify children who are likely to have later school problems, even though they have not yet been exposed to formal school programs" (p. 268).

Another problem of special significance to preschool groups is the variability in normal development among children. The influence of environmental experiences may intensify maturational differences during early years, and large discrepancies in developmental rates can be observed (Cataldo, 1981). Behaviors, speech and language skills and motor skills can change rapidly and may confuse a diagnostic picture. A temporary developmental delay may be considered a major problem if it is observed only during a single testing session (Mercer et al., 1979).

The combination of measurement inadequacies and differential development complicates the assessment of children and increases the possibility of misdiagnosis with resultant incorrect or unstable classification. This is the major disadvantage of early identification.

Historically, the development of categories for exceptional children was based on tenets of help and service (Hobbs, 1975b). However, when the categories of exceptional children are examined, it is evident that the labels imply these children are "exceptional" because they create problems which are considered undesirable, harmful, or otherwise detrimental to the individual in question and to the welfare of society in general (Kitsuse & Spector, 1973). These individuals must be isolated or treated in a special manner to remedy their exceptionality. Becker's (1963) sociological deviance theory suggests that labels cause changes in the expectancies of significant persons in the social system. The label and related expectancies become the basis for the deviant status which, in turn, is communicated to the person and then reflected in the behaviors of the labeled person and the behaviors of those significant others who interact with him. That is, labels create self-fulfilling prophecies (Erikson, 1962; Goffman, 1974; Matza, 1969).

Concerns over special education labels and expectancy effects have become important issues in special education over the past decade. In spite of contradictory claims presented by a few researchers (MacMillan, Jones & Aloia, 1974), evidence has mounted that special education classifications are responsible for humiliation, stigma, lowered performance and reduced opportunities for the labeled individual (Dunn, 1968; Mercer, 1977). Several researchers have confirmed that diagnostic classifications bias teachers' attitudes toward children (Algozzine et al., 1977; Foster, Schmidt & Sabatino, 1976). The harmful effects of labels may be magnified when applied to a preschool population.

Since categorization represents deviancy from the norm and may produce negative expectancy effects, the stability of the label over time is crucial. If a child is designated as retarded when he is three years old and reclassified as learning disabled or normal when he is five years old, simply changing the label may not remove attitudes and expectancies which have developed at school and within the family constellation at home. If classifications are not stable within the preschool group, then alternative methods of placement should be considered. The purpose of this study was, first, to investigate the stability of special education classifications as applied to preschool versus elementary age children; second, to examine the type of label changes which occurred and to compare the frequency of label change among the categories--educable mentally retarded (EMR), trainable mentally retarded (TMR) and specific learning disabled (SLD); and finally, to investigate the relationship between change of label and grade group (preschool or elementary), initial classification, reevaluation classification, sex and race of the child.

Definitions of Terms

PL 94-142. The Education for All Handicapped Children Act of 1975 which mandated a free, appropriate public education for all handicapped children.

Specific Learning Disabled. One who exhibits a disorder in one or more of the basic psychological processes involved in understanding or using spoken or written language. These may be manifested in disorders of listening, thinking, reading, talking, writing, spelling, or arithmetic. They do not include learning problems which are due primarily to visual, hearing, or motor handicaps, to mental retardation, to emotional disorders, or to environmental deprivation (Orange County Public Schools, Note 1).

Educable Mentally Retarded. One who is mildly impaired in intellectual and adaptive behavior and whose development reflects a reduced rate of learning. The measured intelligence of an educable mentally retarded student generally falls between two and three standard deviations below the mean, and the assessed adaptive behavior falls below age and cultural expectations (Orange County Public Schools, Note 1).

Trainable Mentally Retarded. One who is moderately or severely impaired in intellectual and adaptive behavior and whose development reflects a reduced rate of learning. The measured intelligence of a trainable mentally retarded student generally falls between three and five standard deviations below the mean, and the assessed adaptive behavior falls below age and cultural expectations (Orange County Public Schools, Note 1).

Label. To put in a certain class; to classify. (The Random House Dictionary of the English Language, 1966).

Expectancy. Expectations about conscious or unconscious evaluation which one person forms of another which leads the evaluator to treat the person evaluated as though the evaluation were correct (Finn, 1972).

Deviance Theory. Social groups create deviance by making the rules whose infraction constitutes deviance and by applying these rules to particular people and labeling them as outsiders (Becker, 1963, p. 9).

Design of the Study

Assumptions

The assumptions in this study were:

1. Children were assigned special education classifications based on standardized assessment procedures.

2. Children placed in special education programs received an annual review according to specified county procedure (Orange County Public Schools, Note 1). Subsequent to this review, they were referred for reevaluation and a change of classification and program placement was recommended, if appropriate.

3. Class records, psychological services records, and computerized student basic identification information were accurate and complete.

4. Both age groups in the study were enrolled in special education programs which were appropriate for their learning problems.

Methodology

This investigation utilized a correlational design and, therefore, did not presume to assign causality (Campbell and Stanley, 1963). The study dealt, not with contrived situations, but with actual data as they existed within one county school system. The intent of the study was to explore the following questions:

1. Were labels applied to preschool children more unstable than labels applied to elementary age children?

2. Were some classifications more unstable than others? For the purpose of this study, the classifications under consideration were educable mentally retarded, trainable mentally retarded and specific learning disabled.

3. Were the label changes which occurred within the two groups influenced by time of initial classification, type of label applied, individual characteristics such as the sex or race of the child, and factors such as level of parent education and single or dual parent homes?

4. Were the label changes influenced by interactions between the grade group (preschool or elementary) at the time of initial testing, type of label applied, and the sex or race of the child.

The hypotheses tested were:

H_o1: Among children who have attended a special education class and have been referred for re-evaluation, there is no significant difference in frequency of label change between those younger than six and those six years old or older at the time of their initial evaluation.

H_o2: There is no significant difference in frequency of label change among the three categories: educable mentally retarded (EMR), trainable mentally retarded (TMR), and specific learning disabled (SLD).

H_o3: There is no significant variation in classification change attributable to the variables of sex, race, initial classification and grade group (preschool or elementary) or interactions among these variables.

The data were collected according to the following procedures:

1. Records from the Orange County Preschool Diagnostic Center were reviewed on children referred for reevaluation after placement in preschool SLD, TMR or EMR programs. For each child the following data were accumulated: sex, race, entry IQ, entry classification, present IQ, present classification, parent educational level and number of parents in the home.

2. Records of all children referred for reevaluation after placement in self-contained classes for elementary age children at the special school for TMR, self-contained classes for elementary age students at the special school for SLD and students placed in self-contained classes for EMR were reviewed. EMR classes are placed in regular schools and records from seven schools were reviewed. For each child the following data were accumulated: sex, race, entry classification, reevaluation IQ,

reevaluation classification, parent educational level and number of parents in the home. The records for the groups extended over a four year period.

Statistical treatment of the accumulated data included determination of contingency tables and calculation of correlation coefficients between label change and each of the independent variables. Multivariate analysis was accomplished through application of discriminant function analysis.

Limitations

1. This study was limited by loss of records on those students initially placed in programs who moved out of county before receiving their three-year reassessment.

2. This study conformed to a correlational design and did not assume the ability to assign causality.

3. The study was limited to students served by the Orange County School System, Department of Exceptional Education.

Organization of the Report

The report was organized as follows: Chapter II included a review of related literature; Chapter III consisted of a description of the methodology of the study; Chapter IV included a presentation and analysis of the results of the study; and Chapter V contained a summary of the study, discussion of the findings, and recommendations for additional research.

CHAPTER II
RELATED LITERATURE

Introduction

Literature was reviewed in four major areas: (1) theoretical basis for categorization and labeling, (2) historical development of classification procedures in the United States, (3) expectancy effects and their relationship to labeling and (4) funding influences on categorization policies.

The theoretical basis for categorization and labeling was related to the sociological theory of deviance. The historical review focused on the development of practices and procedures of classification in the United States from the 1800s to the present. Expectancy effects were reviewed in regard to their influence on teacher-student interaction and their particular application in the use of special education labels. Finally, funding influences related to the effect of methods of appropriation of funds on the continued use of special education labels.

Theoretical Basis for Categorization and Labeling

Categorization of individuals or groups according to characteristics which make them different from the norm is based on sociological deviance theory as proposed by Howard Becker (1963). He stated:

> Social groups create deviance by making the rules whose infraction constitutes deviance and by applying those rules to particular people and labeling them as outsiders. From this point of view, deviance is not a quality of the act the person commits, but rather a consequence of the application by others of rules and sanctions to an "offender." The deviant is one to whom the label has successfully been applied: deviant behavior is behavior that people so label. (p. 9)

Becker's deviance theory emphasizes the important effects of labeling as part of the process of establishing deviance. His theory suggests that labels cause changes in the expectancies of significant persons in the social system. Becker further clarified: "Whether a given act is deviant or not depends, in part, on the nature of the act (that is, whether or not it violates some rule) and, in part, on what other people do about it" (p. 14).

Edwin Shur (1971) explained deviance theory by providing a "working definition." He stated:

> Human behavior is deviant to the extent that it comes to be viewed as involving a personally discreditable departure from a group's normative expectations and it elicits interpersonal or collective reactions that serve to isolate, treat, correct or punish individuals engaged in such behavior. (p. 24)

Both of these definitions emphasize that deviance is assigned because the individual is somehow different from the norm. This carries the implication of threat to those within the normal group and leads to the consideration of social control. Deviance and control are related because society must be protected from those individuals labeled as deviant. Hobbs (1975a) stated:

> Classification serves to maintain the stability of the community and of its institutions, to control the allocation of resources and govern access to them, to reduce discord in school and neighborhood, to preserve majority values and expectations, and to allay the anxiety generated by the presence of the deviant individual. (p. 20)

Erikson (1966) defined deviance and control as part of a continuing concept. He explained deviance as: "conduct which is generally thought to require the attention of social control agencies - that is, conduct about which something should be done" (p. 308).

The issue of social control as it relates to deviance theory explains the establishment of institutions to house the deviants. Within our public schools we have created special classes to provide for exceptional children and, in this context, have established a means of social control for these groups.

The term "exceptional children" implies that the group so designated is somehow different from normal children. Kitsuse and Spector (1973) explained that populations of exceptional children were separated due to the existence of certain social conditions. These were attributes which were considered undesirable, harmful, or otherwise detrimental to the individual in question and the welfare of society in general. Consideration of categories of exceptional children reveal terminology such as learning disabled, mentally retarded and emotionally disturbed. These conditions carry connotations of less than normal functioning and clearly refer to groups of children who represent social problems (Hobbs, 1975b).

Historical Review

Definitions of deviance which are applicable in the United States today have their base in historical events (Hobbs, 1975a). During the 1800s and 1900s heavy immigration from Ireland and southern and eastern Europe brought settlers into the United States who were poor and uneducated. These newcomers contrasted sharply with the more established Protestant, Anglo Saxon citizenry. Their presence was considered a potential source of economic drain and a threat to the well being of the community. This immigrant group fit the requirements of deviance and providing a measure of social control became important. One method of insuring that they would assimilate American culture rather than cling to old customs was to insist that all children attend the same school system. The enactment of the compulsory school attendance laws in the mid 1800s served the major purpose of providing control over the socialization of this immigrant group. As a result of compulsory attendance, all children were required to attend school and differences in academic progress among the ethnic groups quickly became apparent. Many children were unable to keep pace with the norm in academic achievement, and special educational provisions were needed for them (Hobbs, 1975a).

During the same time period, the theories of natural selection and survival of the fittest were introduced. The eugenics movement, which emphasized the influence of heredity on the future strength of the human race and insisted that society should prevent the propagation of the unfit, became popular as a consequence of these theories. This movement was supported by respected scientists of the day including Henry Goddard, Robert Yerkes and Louis Terman (Kamin, 1975).

In 1917, in an article, "The Menace of Feeble-Mindedness," Terman issued a stern warning:

> Only recently have we begun to recognize how serious a menace it is to the social, economic and moral welfare of the state . . . it is responsible . . . for the majority of cases of chronic and semi chronic pauperism. . . organized charities often contribute to the survival of individuals who would otherwise not be able to live and reproduce . . . if we would preserve our state for a class of people worthy to possess it, we must prevent, as far as possible, the propagation of mental degenerates. (p. 161)

The religious doctrine of predestination was also a forceful influence of the time (Erikson, 1966). According to this doctrine, worldly success was an external sign of an individual's predestination to be saved. Conversely, those not saved were identified by their poverty, ignorance and lack of ambition. Their condition was the result of their inability or unwillingness to be thrifty and their incapacity to use self-denial. The poor were considered disgraceful and relief measures were seen as encouraging weakness of character (Hobbs, 1975a).

Those social influences established boundaries of normalcy and deviance and, therefore, defined limits of behavior for society. Erikson (1966) wrote:

> The deviant is a person whose activities have moved outside the margins of the group, and when the community calls him to account for that vagrancy, it is making a statement about the nature and placement of its boundaries. It is declaring how much variability and diversity can be tolerated within the group before it begins to lose its distinctive shape, its unique identity--deviant forms of behavior, by marking the outer edges of group life, give the inner structure its special character and thus supply the framework within which the people of the group develop an orderly sense of their own cultural identity. (pp. 11-13)

Categorization identified deviant members of society and separated them from normal individuals. Among these groups were children who did not fit with regular school populations. Early classification attempts used labels such as "feeble-minded," "idiot" and "moron" to identify individuals who required special programs (Hobbs, 1975a). Gradually, the terms have been replaced with labels such as "mentally retarded," "learning disabled," "mentally handicapped" and "emotionally disturbed." Although the terms seem less severe, they continue to serve as labels for groups who deviate from the norm and require special services because of their deviance.

The first classes for exceptional children in the public schools were established in 1871 in New Haven (Hobbs, 1975b). These were ungraded classes which were established for children who could not be served in the regular schools. They provided placement for disadvantaged, delinquent and slow children. During the 1890s additional programs for "backward" children were established in major cities throughout the United States (Hobbs, 1975b). Children placed in these classes were described as those unable to benefit from regular school. These children were separated from the mainstream, but classification practices were not well defined.

The development of intelligence testing by Alfred Binet in the early 1900s marked the beginning of the mental testing movement and provided the means for classifying individuals for educational purposes. Special education classes for the retarded with resultant segregation of these groups were considered necessary educational practice in the first half of the century. Lewis Terman revised the original Binet test and adapted it for use in the United States. He noted the differences in performance among children and particularly noted the poor performance of economically deprived children. He wrote (cited in Kamin, 1975):

> Children of this group should be segregated into special classes. They cannot master abstractions, but they can often be made efficient workers. (p. 318)

However, by mid-century, the negative effects of discrimination were being recognized. The need for special educational services was acknowledged, but consideration was being given to the effects of labeling. In 1945, the Council for Exceptional Children concluded that, although special placement might be necessary in the early years, children should be returned to the regular class as soon as possible because of the detrimental effects of social isolation (Robb, 1946). The influence of special education classification on attitudes toward and interactions with children by the significant others in their lives has continued to be a topic of educational concern.

Expectancy Effects

Rosenthal and Jacobson's early investigation of expectancy effects and self-fulfilling prophecy was presented in their text, Pygmalion in the Classroom (1968). Their study has been severely criticized on methodological grounds (Snow, 1969), but these researchers sparked the interest of many investigators and numerous subsequent studies have been conducted in this area. Rosenthal and Jacobson (1968) defined self-fulfilling prophecy as "how one person's expectation for another person's behavior can quite unwittingly become a more accurate prediction simply for its having been made" (p. vii).

Since this early inquiry, the expectancy phenomenon has been the subject of considerable research. In education, the primary interest in expectancy effects relates to their influence on teacher-student interaction. Carl Braun (1976) described the process as follows:

> The teacher perceives competencies and potentialities of children differently and these expectations are reflected in his interactions with children to produce differential performance among learners, thus fulfilling his prophecy. Teacher expectation, self-fulfilling prophecy, and teacher faith have been coined to imply this tendency for the teacher to create a reality commensurate with his perceptions. Furthermore, the learner, while creating his own reality, shadows substantially the reality forming in the teacher's mind. (p. 185)

Various aspects of teacher-pupil interaction have been observed and analyzed as part of the inquiry concerning expectancy effects. Basic questions have involved evidence for the existence of expectancy effects as they relate to teacher-pupil interaction; elements which influence development of expectancies such as previous information, cummulative records, IQ, race, sex, and label; and the influence of expectancy effects on teacher and student behavior.

Early research by Pippert (1969) investigated the effect of informing teachers that a group of children were considered "highly creative" on their eventual performance on a test of verbal ability. He selected twenty fourth grade children and twenty sixth grade children for the experimental groups. He wrote letters to the teachers at the beginning of the school year and informed them that several of the children in each group were "highly creative." These children were to be observed but were not to be encouraged to give superior performances. At midterm the teachers were sent a second letter to remind them of the creative students. At the end of the study it was found that the labeled children showed significantly better performance than the controls on a posttest measure of verbal ability.

Beez (1970) conducted an experiment on preschool children who were attending a Head Start summer school. He randomly assigned thirty children to each of two groups designated as either high or low ability. The instructors were provided with background information on each child which included an IQ score and teacher observations concerning the child's school progress. Beez found that the instructors' attitudes were more favorable toward the children identified as "high ability" and that this group attained higher achievement scores at the end of the summer school session.

McDonald and Elias (1976) employed a quasi experimental method to investigate the influence of teacher expectations on student achievement. They followed the progress of a group of students who showed similar performance on achievement tests at the beginning of the academic year but had been identified by teachers as having different potentials. Analysis of the end of the year achievement test results showed that students designated as those with high potential scored better than those of low potential.

Various factors which comprise expectancy effects have been shown to include elements such as facial attractiveness, sex, race, socioeconomic status, previous school records and standardized test scores. Kehle (1974) asked teachers to rate students on personality characteristics after they had been shown a photograph and given a fictitious written description of the student. It was found that expectancy effects were evident as a result of interactions among the variables of race, sex, attractiveness and intelligence.

Finn (1972) investigated teacher expectation in relation to sex, race, ability and urban or suburban environment. He defined expectations as:

> An expectancy, or expectation set, is a conscious or unconscious evaluation which one person forms of another, or of himself, which leads the evaluator to treat the person evaluated in such a manner as though the assessment were correct. Further, he will act in a manner consistent with the assessment. (p. 390)

His definition is particularly relevant to the use of labels to describe and classify children. Finn compared the responses of fifth grade teacher volunteers from outlying suburban areas on a rating scale of student performance on an essay writing task. The teachers were furnished with fictitious information identifying the child as black or white, male or female, and of high average or low average IQ. He found there was a persistent trend for teachers from the urban schools to rate performance higher when they believed the essays were written by high ability students. He did not find this bias in the responses of suburban teachers, but explained that interfering factors such as better facilities and overall better opportunities for children as well as the absence of blacks in the suburban classes affected the teacher expectation level. The author summarized his study by stating "in certain settings teachers do hold differential expectations for the achievement of student groups having common non-achievement characteristics" (p. 407).

Teacher response to children due to differing expectations has also been investigated. Brophy and Good (1970) used the method of dyadic classroom interaction analysis to investigate teacher communication of differential expectations to first grade children. They observed teachers as they interacted with individual students whom they had previously ranked as high or low achievers. They found that children ranked as high achievers raised their hands more frequently, initiated more contact with the teacher on work-related tasks, and received more teacher praise. When the teachers asked questions of high achievers, the children were given more encouragement to respond. They were given more clues and opportunities for second responses. The low achievers showed decreased class participation and when asked classroom questions were given less opportunity to respond. The low achievers received more criticism, and boys, in particular, received more behavioral reprimands. The authors concluded their data supported the observation that teachers communicate differential expectations to children, and these expectations function as self-fulfilling prophecies.

Other researchers have also noted different teacher response to high ability students. Chaiken, Sigler and Derlega (1974) videotaped teachers in tutoring sessions with students. When working with those students who had been identified as "bright," the teachers smiled more frequently, nodded their heads, looked directly at the students and leaned closer to them. Kester & Letchworth (1972) observed teachers in classrooms after they had been given fictitious information on several class members. The teachers offered more encouragement and were friendlier toward the brighter students.

Rist (1970) conducted a longitudinal study beginning with a kindergarten group. He found that the children were placed in groups during the first two weeks of school based on estimated ability levels and generally remained in these groups throughout the year. He found that children of lowest ability received less teacher contact and were placed at a table that was the most distant from the teacher. This made it difficult to hear and difficult to obtain the teacher's attention. The original group assignment of the children was maintained throughout the first and second grade.

Investigations have also been made of learner response to differential treatment. Peters (1971) reported on a classroom study in which the brown-eyed children were designated as superior for a day and the blue-eyed children were considered inferior for a day. Peters described the reactions of the children as an acceptance of the label and alterations in performance and behavior which were consistent with label descriptions.

Videbeck (1960), in an earlier study, assigned two groups of speech students to read six poems for a visiting expert. One group was praised and the other was criticized. He then assessed self-adequacy of the students and found those who had been praised improved in feelings of self-worth and those who had been criticized decreased in feelings of self-worth.

Expectancy effects, though complicated and difficult to analyze, have been demonstrated to be real components of teacher-student interaction. The extension of expectancy effects from general education settings to special education programs has particular relevance to the practice of classification and labeling children.

Foster, Ysseldyke & Reese (1975) conducted a study to determine the influence of expectancy effects on student teachers enrolled in a special education course which included material on teacher bias and self-fulfilling prophecy. The students were randomly assigned to an experimental or control group, and both groups were shown a videotape presentation of a normal fourth grade boy. One group was told the child was normal and the other was told he was emotionally disturbed. After watching the tape, the students were instructed to fill out a form for referral for diagnostic evaluation for the child. They were also instructed to fill out a personality questionnaire for the child. The researchers found that teachers who had been told the child was emotionally disturbed reflected this view in their completion of the referral form and the questionnaire. In spite of the fact that the teachers were observing normal behavior, they rated the child according to their preconceived notion of behavior characteristics of the special education label. Teachers persisted in their perceptions even though they had received course instruction on expectancy effects and teacher bias.

Another study by Ysseldyke & Foster (1978) examined the effects of the labels, emotionally disturbed and learning disabled, on initial teacher bias and on opinions of regular classroom teachers when these teachers were confronted with conflicting evidence. The authors again used an initial behavior checklist. They found that teachers responded to the label and maintained their opinions regardless of contrary evidence.

Weisz (1979) investigated the relationship between teacher expectations and student performance on the development of learned helplessness in children labeled as retarded. He reported that when groups of retarded and nonretarded children with equivalent mental ages were compared on task performance, the retarded group showed deficits in voluntary response initiation, deterioration in intellectual performance after awareness of failure, and emphasis on causal attributions for failure that were due to uncontrollable causes (low ability) rather than controllable causes (insufficient effort). Weisz (1981) explained that the attitude of adults toward child failure may inadvertently cause the child to develop a condition of learned helplessness. This is accomplished through the processes of two attributional errors: overextension and discounting. Overextension refers to the practice of placing more importance on a cause than it deserves. That is, extending its significance beyond its logical limits. For example, a teacher may accept the fact that a child cannot perform a task which is within the limits of reasonable performance for his mental age. She may attribute his failure on the task to his low ability. If the same task were presented to a normal child with the same mental age as the retarded child and the child was unable to succeed on the task, the teacher might explain his poor performance by his lack of interest, distractibility at the time or some other explanation unrelated to ability. Discounting (Kelley, 1973) is the placement of inflated significance on one factor to the exclusion of all other possible explanations. For example, if a retarded child fails at a task, the teacher or parent may believe that the task is too difficult for the child. For a nonretarded child, the adult may explain failure by a comment such as, "He didn't try hard enough." Adults foster conditions of learned helplessness by allowing children to give up on a task rather than encouraging them to persist in their effort and expecting them to succeed (Severance & Gasstrom, 1977; Weisz, 1981).

Adele Thomas (1979) related the concept of learned helplessness to children categorized as learning disabled. She found that these children generally have prolonged experience with failure, and the resulting frustrations influence their continued performance. Thomas defined learned helplessness as a "phenomenon by which an individual learns, over a series of trials, that she/he has no control over the outcome of events" (p. 209). She related this definition to the performance of learning disabled students and the observation that they often show poor task persistence, low frustration threshold, and a tendency to be unwilling to attempt new tasks.

Seitz and Geske (1976) questioned the effect of the label "retarded" on the perceptions of mothers and teacher trainees toward the retarded child. Using randomly selected groups of mothers and students, the researchers presented them with videotapes of mother-child dyads engaged in free play. The dyads included four mother-retarded child and two mother-nonretarded child pairs. The subjects were asked to view the tapes of a mother-nonretarded child pair, mother-retarded child pair and finally, the mother-retarded child pair after labeling of the child as retarded. After viewing the tapes, the subjects were requested to fill out a behavior questionnaire. Results of the study indicated that both mothers and trainees rated the labeled retarded children as less competent and less able to obtain information than the nonretarded children. However, they also rated the retarded children as happier and more likeable than the unlabeled children. Nevertheless, the raters did not place these children high on the social distance scale; that is, they would not choose to have these children in their homes or their neighborhoods. The authors concluded that the discrepant ratings reflected an attempt to resolve cognitive dissonance within the labelers. Although they recognized the inherent limitations in the child, they resisted rejecting or not liking the child simply because he was retarded.

Salvia, Clark and Ysseldyke (1973) questioned teacher retention of sterotypes of exceptionality in the face of normal behavior. The subjects in this study were 165 undergraduate special education and general education students. The subjects were randomly assigned to three experimental conditions, and each group was asked to complete a questionnaire on a particular child. The first group was told the child was normal, the second group was told he was mentally retarded and the third group was told he was gifted. The three groups were then shown a videotape of the purported child and again asked to rate the child. All groups viewed the same tape of a normal child. Results of the study showed that gifted children were rated more positively than normal children in areas such as attitude toward own performance and attitude toward the task. Mentally retarded children were rated less positively than normals on all areas of the checklist. The authors concluded the expectancy effects due to the applied labels were evident, but not all pervasive.

Gillung and Rucker (1977) investigated the effects of behavioral descriptions and behavioral descriptions plus special education label on the expectations of teachers. The authors utilized the Rucker-Gable Educational Programming Scale (RGEPS) (Rucker & Gable, 1973) which consists of a series of behavioral descriptions and requires the teachers to choose an appropriate educational placement. The only difference in the descriptions was that one stated the special education classification and the other did not. The authors found that both regular education and special education teachers held lower expectations for children who were labeled than for those who were not labeled. They concluded that special education labels carry negative connotations and that teachers see children who are labeled as having relatively more severe academic and behavioral problems and requiring more intensive educational programming than children who are not labeled.

Algozzine et al. (1977) investigated the effects of the special education labels of specific learning disabilities and emotional disturbance on teacher expectations of classroom performance and behavior. The researchers asked 128 teachers to review four case studies and complete a questionnaire concerning the relative acceptability of the behaviors described. It was found that teachers appeared to have preconceived notions of behaviors appropriate for learning disabled or emotionally disturbed children. Behaviors considered expected for emotionally disturbed children were not expected for learning disabled children. The authors suggested that special education labels may serve as reference points for determining tolerable behavior. That is, part of what is considered typical behavior for a particular category exists in the mind of the observer.

Funding Influences

The categories of exceptional children were developed in an attempt to provide appropriate help and service for children in need (Hobbs, 1975b). Special class placement was intended to offer a child the advantages of well-trained teachers, specialized curriculum and small class size. Because of the expense involved, places were limited and testing and classification processes were considered program safeguards.

Funding practices for special education programs have strongly contributed to the labeling process. Financial support through federal and state agencies requires regulation and assurance that the money reaches the designated groups. Funds have been made available through several agencies, and two of the largest divisions include the Rehabilitation Services Administration (RSA) and the Bureau of Education for the Handicapped (BEH). Both agencies provide monies for direct service as well as sponsorship of projects for research, demonstration and training. To allocate their resources, both agencies refer to categories of target populations and these include the labels for exceptional children (Hobbs, 1975b).

Perhaps the most significant federal influence on programs for exceptional children has been the passage of the Education for All Handicapped Children Act of 1975, PL 94-142. The law states, in part:

> A free, appropriate public education will be available for all handicapped children between the ages of three and eighteen within the State not later than September 1, 1978, and for all handicapped children between the ages of three and twenty-one within the State not later than September 1, 1980, that with respect to handicapped children aged three to five and aged eighteen to twenty-one, inclusive, the requirements of this clause shall not be applied in any State if the application of such requirements would be inconsistent with State law or practice, or the order of any court, respecting public education within such age groups in the State (Public Law (P.L.) 94-142, 1975, Section 612 (2) (B).

This law guaranteed the right of all handicapped children to a free, appropriate public education (Behr & Gallagher, 1981). The funding provided with the law is based on reported state counts of the number of handicapped children and, therefore, is bound to the traditional practices of testing, labeling, and placing children in categorical programs. The law assured the growth of special education programs but also further entrenched the practice of labeling.

For the first time, however, this law provided for the education of exceptional children during preschool years. Labeling has been considered a necessary prerequisite to provision of special programs for exceptional children, and the danger of negative expectancy effects has been overshadowed by the advantages of special programs. But labeling of young children is complicated by variations in developmental rates, inadequacies of testing instruments, and use of categories designed for school age populations (Mercer et al., 1979). It is possible that labels applied during the preschool years are unstable and the risk of misdiagnosis and unwarranted expectancy effects may outweigh the benefits of special programs. The purpose of this study was to investigate the relative stability of special education categories applied to a preschool age group and an elementary school age group of children.

CHAPTER III
PROCEDURES

Introduction

According to section 228.041 (19) and 230.23 (4) (m) 4., Florida Statutes (Orange County Public Schools, Note 1):

> No student shall be given special instruction or services until he is properly classified as an exceptional student. The parent or guardian of an exceptional student placed or denied placement in a program of exceptional education shall be notified promptly of such placement or impending placement or denial. The term "exceptional student" means any child or youth who has been certified by a specialist qualified under regulations of the state board to examine students who may be unsuited for enrollment in a regular class of the public schools or is unable to be adequately educated in the public schools without the provision of special classes, instruction, facilities, or related services, or a combination thereof.

This statute clearly specifies that children must be certified as exceptional before they are placed in special education programs. The intent of the law may be to protect children from inappropriate placement and to protect the state from unnecessary expenditure for students who do not actually require special services, but to accomplish these aims, it requires that children be categorized and labeled before being assigned to special classes. This directive applies to all children regardless of age group.

To investigate the unique aspects of special education labeling practices for preschool children, a correlational study was designed which compared a sample of preschool children to a sample of elementary school children.

The researcher's hypotheses questioned the stability of special education labels applied to a preschool versus an elementary school age group. Further questions were posed concerning the stability of specific classifications, EMR, TMR, or SLD, and the influence of independent variables such as sex and race on label change. Specifically, the researcher attempted to answer the following questions:

1. Were labels applied to preschool children more unstable than labels applied to elementary age children?

2. Were some classifications more unstable than others? For the purposes of this study, the classifications under consideration were educable mentally retarded, trainable mentally retarded and specific learning disabled.

3. Were the label changes which occurred within the two groups influenced by the time of initial classification, the type of label applied, individual characteristics such as the sex or race of the child and factors such as level of parent education and single or dual parent homes?

4. Were the label changes influenced by interactions among the grade group (preschool or elementary) at the time of initial testing, the type of label applied, the sex and the race of the child?

Design of Research

The intent of this study was to investigate classification practices in an existent school system. Because the topic dealt with human subjects and the controversial issue of diagnostic labeling prior to special education placement, it was not possible, nor advisable, to use an experimental design. Ary, Jacobs and Razavieh (1979) stated that many variables which are of interest in educational research are not amenable to experimental methods. They explained:

> We cannot randomly assign children to broken or intact homes, to high or low social class, to achievement-oriented or non-achievement oriented peer groups, and so forth. (p. 289)

The design of this study was correlational in nature and utilized ex post facto data. Ary et al. (1979) described correlational studies as

> concerned with determining the extent of relationship existing between variables. They enable one to ascertain the extent to which variations in one variable are associated with variations in another. (p. 305)

Ary et al. (1979) referred to the ex post facto study as one which is used when it is not possible to randomly assign subjects to groups and to directly manipulate variables. He stated:

> In ex post facto studies, the changes in the independent variable have already taken place and the researchers must study them in retrospect for their possible effects on an observed dependent variable. (p. 292)

Kerlinger (1973) referred to the use of ex post facto methods as the basis of some of the most important educational research. He commented:

> It can even be said ex post facto research is more important than experimental research. This is, of course, not a methodological observation. It means, rather, that the most important social, scientific and educational research problems do not lend themselves to experimentation. (p. 391)

The utilization of a correlational design as described in this study carried the limitation to external validity of inability to assign causality (Campbell & Stanley, 1963). Since the study dealt with educational services for actual human subjects, application of an experimental design would have required that those subjects relegated to a control group would have been denied special education services. This would have been unethical procedure and, therefore, was not implemented.

Campbell and Stanley (1963) clarified the issue of causality and the usefulness of correlational techniques:

> Such data are relevant to causal hypotheses inasmuch as they expose them to disconfirmation. If zero correlation is obtained, the credibility of the hypothesis is lessened. If a high correlation occurs, the credibility of the hypothesis is strengthened in that it has survived a chance of disconfirmation. To put the matter another way, correlation does not necessarily indicate causation, but a causal law of the type producing mean differences in experiments does imply correlation. (p.64)

The design was limited in what Campbell and Stanley (1963) referred to as threats to internal validity by the element of self-selection. Self-selection occurs when the sample consists of individuals who are assigned to groups due to naturally occurring circumstances. This study dealt with exceptional children, a unique population which is separate from regular education and always carries the characteristic of self-selection. In addition, data used in this research were drawn from records of children referred for evaluation by their parents, pediatricians or teachers. The sample was not selected randomly from the total population of children.

Data Collection

The School Board of Orange County, Florida, serves the city of Orlando and its immediate environs. It includes an area of approximately 910 square miles (Florida Statistical Abstracts, 1980) and a population of approximately 471,000 (Bureau of Census, 1980). During the 1980-81 school year, the Orange County School Board served a population of approximately 80,000 students (Orange County Public Schools, Note 2). Of this total, 11,283 students were served by the Department of Exceptional Child Education (Orange County Public Schools, Note 3). This department provides classes for a great variety of handicapped children and includes programs for EMR, TMR, and SLD children that were considered in this study. During the 1980-81 academic year, the number of elementary school age children in each of these categories included

EMR	472
TMR	97
SLD	240

In Orange County, the preschool population, that is, the age range from three to five years, is provided both a diagnostic center and self-contained special education placement for those children qualifying for special class programs. Children are referred to the diagnostic center because of problems such as suspected developmental delay, poor speech or behavior management difficulties observed by the parents, the nursery school teacher or the pediatrician. If the results of the diagnostic testing confirm the need for special placement, appropriate recommendations are made. The basis for placement recommendations may include evidence of poor progress in preacademic areas, results of intelligence testing, deficiencies in speech and language development, poor performance on visual motor tasks, and adaptive behavior level which is shown to be below expectations for the child's chronological age.

For elementary age children, special class placement is generally accomplished subsequent to the following process: the child has difficulty in school and may be retained in a grade or be socially promoted; subsequently, the parents are informed of the child's problems and their permission to evaluate the child is solicited. When their permission is obtained, the child is referred to the school psychologist for evaluation and to the social worker for determination of a social history and assessment of adaptive behavior. If necessary, additional evaluations from the speech therapist or specific learning disabilities teacher are obtained. After testing is administered, special education placement is recommended, if appropriate. The determinants for placement include school performance, intelligence testing, ancillary specialized evaluations and measure of adaptive behavior.

To investigate current classification practices, a preschool and an elementary school age special education group were assembled. To obtain the preschool group, the records of the preschool diagnostic clinic were reviewed over the four year period extending from academic year 1977-78 through 1980-81. These records have been meticulously maintained and include data on each child that has been evaluated at the center. From these records all children who were referred for reevaluation after initial classification and placement in programs for

EMR, TMR or SLD were selected. For each child the following information was collected: sex, race, initial IQ, reevaluation IQ, initial classification, reevaluation classification, parent educational level and number of parents in the home.

Parent educational level was selected as an index of socioeconomic range (SER) and was designated by the terms high, middle and low. Educational attainment of less than high school was considered low, high school attendance was considered middle and any college attendance was considered high. Years of schooling have been shown to be directly related to occupational attainment. Breedemier and Breedemier (1978) stated:

> If you are in the top ten percent of education receivers the chances are about thirty-eight out of a hundred that you will be in the top ten percent of occupations. Your chances of being in that top ten percent if you are in the middle group of education receivers, however, are only about seven out of a hundred; and if you are in the bottom ten percent of education receivers, they are about one out of a thousand. (p. 151)

For this sample, information in this area was obtained through the computerized basic identification card which is maintained as part of each student's county record. Missing values were encountered on 43 children, and these cases were not included in the statistical analysis when parent education was entered as a variable. The total sample contained 15 children from high SER homes, 58 from middle SER homes and 182 from low SER homes.

Determination of number of parents in the home was based on information available in the psychological services files and on the computerized basic identification card. If both parents were not listed on the ID card, the child was considered to be living in a single parent home. Children living in foster homes were placed in a separate category and were considered as missing values when parent in home was included in the analysis. This was decided because foster homes are often temporary assignments and may have changed several times during the time period considered in this study. The total sample included 106 children living in single parent homes and 166 living in dual parent homes.

To obtain the comparison group of elementary age children, the following procedures were established. In Orange County, the Department of Exceptional Education has instituted staff positions referred to as exceptional education consultants. These individuals serve as administrative representatives at all special education placement staffings. Their role is to insure that proper procedures are followed and that children are placed appropriately and according to legal guidelines. These individuals maintain a written record of each child staffed into a special education program.

District guidelines (Orange County Public Schools, Note 1) require standardized procedures for review and reevaluation of exceptional students:

> 1. Each exceptional student's progress will be reviewed at the end of the school year as part of the annual Individualized Educational Plan review. Results of this review will be documented on an Educational Planning Conference form and attached to the student's IEP.
> 2. A formal reevaluation of the student's placement in the exceptional education program will be conducted every three years or as conditions warrant.

> 3. A review or reevaluation will also be conducted upon the request of the parent or guardian, teacher(s) or other appropriate school personnel. (p. 13)

The exceptional education consultants maintain a written record of those children who are reevaluated at any time during the school year. Additionally, school psychologists provide intellectual assessment of children, and, in Orange County, they are required to maintain a record of each child that they evaluate.

The comparison group of elementary age children for this study was accumulated by reviewing the records of the exceptional education consultants and the school psychologists from academic year 1977-78 through academic year 1980-81. Children initially placed in EMR, TMR or SLD programs and referred for reevaluation were included. For the SLD group, the records were reviewed for those children attending Cherokee Elementary School, a special education facility which provides self-contained classes for EH (emotionally handicapped) and SLD children. For the EMR group, self-contained classes in seven elementary schools were reviewed. For the TMR sample, the records pertaining to Magnolia Special Education Center, the Orange County facility for TMR children, were reviewed. For each of these samples, data were accumulated regarding the sex, race, initial IQ, reevaluation IQ, initial classification, reevaluation classification, parent educational level, and number of parents in the home.

Assumptions and Limitations of Research

Assumptions

1. County records were accurate and complete.

2. District guidelines were followed in regard to initial placement of students in special classes.

3. District guidelines were followed in regard to review of appropriate placement and referral for reevaluation of students in special education classes.

Limitations

1. Since county records were employed, their accuracy was dependent upon careful reporting by parents and teachers. This was a potential source of error.

2. Because of the ex post facto nature of the data, missing values were encountered in some cases on the variables of parent education level and number of parents in the home. These cases were omitted in the calculations when those variables were part of the analysis.

Data Analysis

The raw data collected have been summarized according to age level and classification. The subjects included in the study consisted of 127 preschool children and 171 elementary age children. These were subdivided into 67 EMR, 44 TMR, and 16 SLD preschool children and 108 EMR, 25 TMR and 38 SLD elementary age children. Table I provides a summary of the proportions of males and females, blacks and whites and numbers of children per special education classification for both the preschool and the elementary school age groups.

Table 1

Frequency Chart for
Preschool and Elementary Age Groups

Frequency	Preschool	Elementary	Total
Number per group	127	171	298
By Sex			
Males	78	110	188
Females	49	61	110
By Race			
White	89	76	165
Black	38	95	133
By Classification			
EMR	67	108	175
TMR	44	25	69
SLD	16	38	54

Data analysis is presented in Chapter IV and the following calculations were reported. Correlations were determined between label change and each of the independent variables. Two and three way contingency tables were generated to compare the frequency of label change within the two age groups and among the three classifications: EMR, TMR and SLD. They were also used to investigate the relative influence of each of the independent variables on label change and the effects of interactions between variables on label change. The Chi-square Test of Significance was reported and the 0.05 level was set for determining significance.

Finally, the data were analyzed using the multivariate technique of discriminant function. This method may be considered the same as multiple regression when the dependent variable is membership in one or the other of two groups (Kerlinger & Pedhazur, 1973; Klett & Overall, 1972).

For this study the criterion or dependent variable was designated "change" or "no change" in label. The independent variables included grade group (preschool or elementary), type of initial label (EMR, TMR or SLD) and individual characteristics of sex, race, parent educational level and number of parents in the home. Information on reevaluation label and reevaluation IQ were utilized for comparative and descriptive purposes.

Green and Tull (1970) explained that two group discriminant analysis may involve the following objectives:

1. Determine if significant differences exist between two groups.

> 2. Determine which variables account most for the intergroup differences.
>
> 3. Allow the researcher to find linear combinations of the predictor variables that enable the analyst to represent the groups by maximizing among group relative to within group separation. (p. 369)

Applied to this study, the purpose of discriminant function analysis was to investigate the differences between the two groups, one whose label had changed and the other whose label had not changed, and to determine those characteristics which discriminiated most effectively between the two groups. That is, were the two groups identifiable on the basis of label change, and, if so, which within group characteristics were associated with this change?

CHAPTER IV
ANALYSIS AND PRESENTATION OF RESULTS

The data obtained for this study were analyzed through tabulation and interpretation of contingency tables, calculation of correlations between label change and the variables under consideration and application of discriminant function analysis. Since the investigation involved two groups, this method of multivariate analysis is a form of multiple regression (Kerlinger & Pedhazur, 1973). The results of the analysis were reported as discriminant function equations and as proportions of correct and incorrect classifications of cases. These values would be comparable to regression coefficients and incremental increases in R^2 reported in multiple regression.

Analysis of the First Hypothesis

> H_o1: Among children who have attended a special education class and have been referred for reevaluation, there is no significant difference in frequency of label change between those younger than six and those six years or older at the time of their initial evaluation.

The research question posed by this null hypothesis was: "Were labels applied to preschool children more unstable than labels applied to elementary school children?" This question dealt with changes which occurred within the two subgroups, preschool and elementary school age children. More specific questions concerning the "nature" of change, that is, type of label change and the relationship between change and characteristics of individuals such as race and sex, were considered by subsequent hypotheses.

Data used in testing the first hypothesis consisted of values obtained from the total group of 298 preschool and elementary age children contained in the study. This large group was subdivided into 127 cases who were preschool children at the time of their initial evaluation and 171 who were elementary age students at the time of their initial testing. A contingency table was computed to compare the frequency of label change within each group upon reevaluation after placement in a special education program. In the total sample of 298 children, 85 or 28.5% changed labels after reevaluation. Within the 127 preschool children, label change occurred in 59 or 46.5% of the cases under consideration. Within the elementary age group, 26 or 15.2% of the cases experienced a label change. This represented a significant difference in frequency of label change within the two subgroups, $\underline{X}^2$ (1) = 34.91, $\underline{p}$=0.001. For this study, probability levels of less than 0.05 were considered significant for all reported test statistics.

The relationship between grade group, preschool and elementary, of the student and the frequency of label change after reevaluation was next investigated through utilization of discriminant analysis. This procedure, as a form of multiple regression, distinguishes between groups on the basis of a linear combination of the independent variables included in the analysis. In the stepwise process, an optimally-weighted sequence of variables is selected which maximally separates the groups (Lohnes & Cooley, 1971; McClave & Dietrich, 1979; Nie, Hull, Jenkins, Steinbrenner & Bent, 1975). After the optimal sequence is established, the discriminant function coefficients are applied to the variables and a discriminant score is derived for each subject. The subject is then assigned to a group, in this study "change" or "no change" of label, based on the probability of group membership associated with that score. The accuracy of prediction of group assignment produced by the application of the discriminant function to the variables is indicated by the percent of cases correctly classified.

In this analysis, the first variable selected in the stepwise procedure was the grade group (preschool or elementary) to which the child belonged at the time of initial evaluation. Knowledge of grade group membership enabled 68.46% accuracy in prediction of label change. That is, of the 85 cases within the total sample which changed labels, 59 could be assigned to the "change" category when the only known variable was grade group (preschool or elementary) membership at the time of initial testing. Of the 213 cases which did not change labels on reevaluation, 145 could be placed in the "no change" category. The classification matrix for this portion of the discriminant analysis is presented in Table 2.

The unstandardized canonical discriminant function coefficient with grade group as the independent variable and "change" or "no change" of label as the dependent variable was incorporated into the following discriminant function equation:

$$\text{change} = 0.16 + 1.07\ (\text{grade group})$$

Table 2

Discrminiant Function Matrix
Label Change as a Function of Grade Group

Observed Label	Number of Cases	Predicted Label	
		Change	No Change
No Change	213	68 31.9%	145 68.1%
Change	85	59 69.4%	26 30.6%

Note: Total percent of grouped cases correctly classified = 68.4%, $F = 39.28$, df = 1,296, $p = 0.01$

For this analysis, the variables were assigned effect (contrast) coding (Kerlinger & Pedhazur, 1973). The preschool cases were coded as 1 and the elementary cases as -1. The F to enter at this step was 39.28 (1,296), $p < 0.01$. Appendix A presents the F values and other relevant statistics for the stepwise discriminant function analysis utilized for this study.

The factors presented and discussed in Chapters I and II including differential rate of development, advantages of early intervention, and inadequacies of preschool testing may help to explain the higher incidence of label change within the preschool group. This study confirmed that classification change did occur substantially more frequently when a child was placed in a special program as a preschooler than when placed in a special program as an elementary student. The data analysis supported rejection of the proposed null hypothesis.

Analysis of the Second Hypothesis

The second hypothesis questioned the relative magnitude of label change within the total sample among the categories of EMR, TMR and SLD. The null hypothesis was stated as:

> H_o2: There is no significant difference in frequency of label change among the three categories: educable mentally retarded, trainable mentally retarded, and specific learning disabled.

Directionally, it was surmised that the less severe categories of EMR and SLD would show more label change than the more severe category of TMR. This was consistent with Aldrich and Holliday's (1971) observation that identification and diagnosis of mildly handicapping conditions have been less accurate than identification of more severe conditions.

The two by three contingency table categorizing change in label by type of label showed that of the 175 students initially classified as EMR, 66 changed labels upon reevaluation; of the 69 TMR students, 16 changed labels; of the 54 SLD students, 3 changed labels. The differences in frequency of label change were significant as shown by the test statistic, $\underline{X}^2$ (2) = 22.19, $\underline{p}$ = 0.001. A tabulation of specific initial label to final label changes is presented in Table 3.

Examination of this table showed that the majority of revisions were evident within the EMR category, and these were most often from special class (EMR) to regular class placement. In six cases, students were reclassified from EMR to TMR. These changes generally occurred when the initial assignment to an EMR class had been based on borderline placement scores, and it became evident, over time, that the student required the more restricted TMR program. There were a few cases in which the student had debilitating experiences, such as recurrent seizures, and a decrease in measured IQ was noted. In 12.6% of the cases, the students moved from EMR classes to SLD, EH, or self-contained language classes. These programs do not carry the "mentally retarded" label and, in that context, may be considered a less severe placement.

Table 3
Initial and Final Classifications within the Total Sample

	Final Label						
Initial Label	EMR	TMR	SLD	Regular Class	Language Class	EH	Total
EMR	109 62.3%	6 3.4%	15 8.6%	38 21.7%	5 2.9%	2 1.1%	175 100.0%
TMR	11 15.9%	53 76.8%	3 4.3%	1 1.5%	0 -0.0%	1 1.5%	69 100.0%
SLD	3 5.6%	0 0.0%	51 94.4%	0 0.0%	0 0.0%	0 0.0%	54 100.0%
Total	123 41.2%	59 19.8%	69 23.2%	39 13.1%	5 1.7%	3 1.0%	298 100%

Note: Chi-square for "change" vs "no change" of initial label for total group: $\underline{X}^2$ (2) = 22.19, $\underline{p}$=0.001

Other classification changes included movement from TMR to EMR classes and, in some cases, from TMR to SLD, EH or regular class placement. The SLD category showed the least instability with only three changes occurring. Three students moved from SLD to EMR on reclassification. This study did not differentiate placement from self-contained SLD to resource (part-time placement) SLD as a label change because, although this represented an alteration in educational approach, it did not remove the label or the connotations which the label might have carried.

In the stepwise discriminant function procedure, initial label was selected as the second variable to be entered into the analysis. Since there were three possible labels, effect (contrast) coding was assigned, and two variables for initial label, IL and IL2, were entered into the analysis. The first variable showed the contrast between the EMR and SLD labels and used the coding: EMR = 1, TMR = 0, SLD = -1. The second variable showed the contrast between the TMR and SLD cases and used the coding: EMR = 0, TMR = 1, SLD = -1 (Kerlinger & Pedhazur, 1973).

The discriminant function classification matrix computed after the inclusion of IL and IL2 is presented in Table 4. With the addition of these variables, the total percentage of correct classifications improved from 68.46% to 73.15%. Comparison of Table 2 with Table 4 showed that addition of initial label to the analysis added discriminative power for the selection of those cases which did not change labels. Very little difference in predictive power was evident for the cases which changed labels.

Table 4
Discriminant Function Matrix
Label Change as a Function of Grade Group and Initial Label

Observed Label	Number of Cases	Predicted Label	
		Change	No Change
No Change	213	53 24.9%	160 75.1%
Change	85	58 68.2%	27 31.8%

Note: Total percent of grouped cases correctly classified = 73.15%,

$\underline{F}$ = 24.12, df = 3,294, $\underline{p}$ = 0.01

The unstandardized canonical discriminant function coefficients for grade group and initial label (IL and IL2) were entered into the following equation:

$$\text{change} = -0.24 + 0.92\,(\text{grade group}) + 0.97\,(\text{IL}) + (-0.31)\,(\text{IL2})$$

The *F* value when IL was entered into the analysis was (1,295) 27.46, significant at the 0.01 level. When IL2 was entered, an *F* (1,294) of 0.18 was obtained which was not significant at the 0.01 level. The equivalent *F* which represents a composite value and is a test of the significance of the combined effects of all the previously entered variables was (3,294) 24.12, significant at 0.01.

The results of the contingency table calculations and the discriminant analysis supported rejection of the second null hypothesis. They confirmed that the EMR classification was the least stable of those included in the study. Labels generally changed from more severe to less severe categories, and many changes resulted in no further need for special class services. This implied that those children had grown in independence and had shown progress in academic skills. Decreased need for special class placement is a bonus for a school system as it attempts to fit its program needs to increasingly limited budgets.

These results are in partial agreement with Aldrich and Holliday's (1971) statement that severe labels are more often accurately diagnosed. That is, the TMR group showed less change than the EMR group. However, SLD is considered a relatively less severe category in regard to academic ability and IQ qualifications than EMR, and yet, very little label change was evident in this group. Those initially labeled as SLD tended to retain that label at least through the first reevaluation period.

Analysis of the Third Hypothesis

The third hypothesis questioned the "nature" of the label changes which took place. Specifically, the relationships among change, the grade group of the student at the time of initial placement, the type of initial classification, and individual characteristics of the student, such as race and sex, were examined. The hypothesis was stated:

> H_o3: There is no significant variation in classification change attributable to the variables of sex, race, initial classification and grade group (preschool or elementary) or interactions among these variables.

It was possible to accumulate information concerning educational level of the parent and number of parents in the home as described in Chapter III, and these data were included in the investigation. Information was also collected concerning initial IQ, reevaluation label and reevaluation IQ. These values were utilized for comparative and interpretive purposes.

Correlations were first determined between change of label and each of the independent variables. For this portion of the analysis, dummy coding (0,1) rather than effect coding (1, 0, -1) was used. These values are presented in Table 5. The highest correlations existed between change and the grade group of the student (preschool

Table 5

Correlations Between Change in Label and Independent Variables

Variable	Correlation
Grade Group (preschool = 1, elementary = 0)	0.34 p=0.000
Initial Label (IL) (EMR = 1, TMR + SLD =0)	0.24 p=0.000
Initial Label (IL2) (TMR = 1, EMR + SLD = 0)	-0.06 p=0.132
Sex (male = 1, female = 0)	0.10 p=0.045
Race (white = 1, black = 0)	0.07 p=0.102
SER 1 (high = 1, middle + low = 0)	0.02 p=0.337
SER 2 (middle = 1, high + low = 0)	0.12 p=0.018
Parent in Home (1) (single = 1, both = 0)	-0.02 p=0.371
Parent in Home (2) (both = 1, single = 0)	-0.04 p=0.273

or elementary) and change and the initial label (EMR = 1, TMR+SLD = 0). Sex, race, level of parent education (SER), and number of parents in the home showed minor correlations with label change. Their contributions were minimal in comparison to grade group and initial label.

To examine the differences between the two subgroups, preschool and elementary, correlations were next determined for each subgroup separately. These results are presented in Table 6. Comparison of the two sets of values showed there was relatively greater correlation between change and each of the independent variables in the preschool group than in the elementary group. A relatively large comparative difference was seen in the correlations of 0.41, $\underline{p} = 0.001$ (preschool) and 0.19, $\underline{p} = 0.007$ (elementary) between change and initial label (IL). Tables 7 and 8 present the frequency of label changes which occurred within each grade group. The Chi-square value obtained for the preschool group was (2) 24.13, $\underline{p} = 0.001$, whereas for the elementary group a value of (2) 6.15, $\underline{p} = 0.05$ was determined. These values reflected the previously established findings that, overall, change occurred more frequently within the preschool group and specifically within the EMR classification.

Table 6

Correlations Between Change in Label and Independent Variables for Preschool and Elementary Groups

Variable	Correlation	
	Preschool	Elementary
Sex (male = 1, female = 0)	0.19 p=0.018	0.04 p=0.287
Race (white = 1, black = 0)	0.13 p=0.079	-0.15 p=0.026
Initial Label (EMR = 1, TMR & SLD = 0)	0.41 p=0.001	0.19 p=0.007
Initial Label (TMR = 1, EMR & SLD = 0)	-0.21 p=0.001	-0.08 p=0.053
SER 1 (high = 1, middle & low = 0)	-0.05 p=0.273	-0.05 p=0.275
SER 2 (middle = 1, high & low = 0)	0.22 p=0.006	-0.12 p=0.053
Parent in Home (1) (single = 1, both = 0)	-0.002 p=0.493	-0.004 p=0.480
Parent in Home (2) (both = 1, single = 0)	-0.09 p=0.154	-0.03 p=0.362

Table 7

Change in Initial Label for Preschool Subgroup

Observed Label		Initial Label		
		EMR	TMR	SLD
No Change	(count)	23	30	15
	(col. %)	34.3	68.2	93.8
Change	(count)	44	14	1
	(col. %)	65.7	31.8	6.2

Note: Chi-square for "change" vs "no change" of initial label for preschool subgroup: $\underline{X}^2$ (2) = 24.13, $\underline{p}$ = 0.001

Table 8

Change in Initial Label for Elementary Subgroup

Observed Label		Initial Label		
		EMR	TMR	SLD
No Change	(count)	86	23	36
	(col. %)	79.6	92.0	94.7
Change	(count)	22	2	2
	(col. %)	20.4	8.0	5.3

Note: Chi-square for "change" vs "no change" of initial label for elementary subgroup: $\underline{X}^2$ (2) = 6.15, $\underline{p}$ = 0.05

Contingency table analysis was next applied to investigate differences among other variables suggested by the comparison of the correlation tables. Interpretations in this portion of the analysis were complicated by unequal numbers and small sample sizes within subgroups. It was possible to make descriptive statements relevant to the sample under consideration, but more general applications would be unsubstantiated.

Examination of label change in regard to sex showed that 60 (31.9%) out of 188 males and 25 (22.7%) out of 110 females in the total group received a change in classification, $\underline{X}^2$ (1) = 2.87, $\underline{p}$ = 0.09. Although the difference was not significant, it was large enough to indicate that the sex of the student was a contributing factor to label change, but its importance was minor in comparison to the more powerful influences of grade group and initial label. Overall, males tended to change labels slightly more frequently than females. When the two variables, sex and grade group, were analyzed in relationship to change, it was found that the subgroup of preschool males showed the greatest frequency of label change. Females were less numerous than males in both grade groups, but the lowest frequency of change among all subgroups occurred within the elementary age females. The tabulation of change by grade group by sex is presented in Table 9.

Table 9

Label Changes per Grade Group, Preschool or Elementary According to Sex, Male or Female

Observed Label	Preschool		Elementary		Total	
	Male	Female	Male	Female	Male	Female
No Change						
(count)	36	32	92	53	128	85
(col.%)	46.2	65.3	83.6	86.9	68.1	77.3
Change						
(count)	42	17	18	8	60	25
(col. %)	53.8	34.7	16.4	13.1	31.9	22.7

Note: Chi-square for "change" vs "no change" for the total group by sex: $\underline{X}^2$ (1) = 2.87, $\underline{p}$ = 0.09

The incidence of label change was next explored in regard to race. It was found that 165 (55.4%) cases in the total sample were white and 133 (44.6%) cases were black. On reevaluation, 52 (31.5%) of the white students changed categories and 33 (25.0%) of the black students changed categories. Label change occurred slightly more frequently among whites than blacks, but the shift was minimal, $\underline{X}^2$ (1) = 1.67, $\underline{p}$ = 0.5. Interpretation was complicated by the distribution of race within subgroups. The preschool group was predominantly white, 89 (70%) and the elementary group predominantly black, 95 (55%). When grade group and race were considered in relationship to change, it was found that the greatest frequency of change occurred within the preschool white students. Blacks were present in proportionately greater numbers in the elementary group but changed labels more often in the preschool group. The lowest frequency of change was seen in the white elementary age students. These results are presented in Table 10.

When level of parent education (SER) was considered, 15 (5.0%) cases of the total sample were in the high range, 58 (19.5%) were in the middle range and 182 (61.1%) were in the low range. There were 43 (14.4%) cases with missing values on this variable, and these were omitted from the calculations. Label change occurred in 5 (33.3%) cases in the high range, 23 (39.7%) in the middle range and 45 (24.7%) in the low range. Although change occurred most frequently in the middle range, the differences in percentages were insignificant, $\underline{X}^2$ (2) = 5.13, $\underline{p}$ = 0.1.

Table 10

Tabulation of Label Changes per Grade Group:
Preschool or Elementary According to Race, White or Black

Observed Label	Preschool		Elementary		Total	
	White	Black	White	Black	White	Black
No Change						
(count)	44	24	69	76	113	100
(col. %)	49.4	63.2	90.8	80.0	68.5	75.0
Change						
(count)	45	14	7	19	52	33
(col. %)	50.6	36.8	9.2	20	31.5	25.0

Note: Chi-square for "change" vs "no change" for the total group by race: $\underline{X}^2$ (1) = 1.67, $\underline{p}$ = 0.5

Consideration of change by grade group by SER showed that label change was seen most frequently in the preschool children at the middle SER level and the elementary age students at the low SER level. Interpretation was limited by the unequal numbers in each group and the small number of cases in the high group. The results are presented in Table 11.

Number of parents in the home was next considered in regard to change of label. Change occurred in 45 (27.1%) cases of students living in single parent homes and 29 (27.4%) cases of students living in dual parent homes. There was very little difference in percentage, and, therefore, the variable had essentially no effect on label change for this sample, $\underline{X}^2$ (1) = 3.15, $\underline{p}$ 0.10.

When change by grade group by number of parents in the home was considered, there was little differentiation ascribable to the additional variable. The percentages of change within the two grade groups remained nearly the same. These results are presented in Table 12.

In an effort to more clearly identify the "nature" of the label changes which occurred, contingency tables were next computed to explore the relationship among grade group, type of label change, and the sex or race of the student. Chi-square values were not determined because, due to the increased number of cells in each cross tabulation, many cells were empty or contained small numbers.

Table 11

Label Change per Grade Group, Preschool or Elementary
by Parent Education Level (SER): High, Middle or Low

Observed Label	Preschool			Elementary			Total		
	High	Middle	Low	High	Middle	Low	High	Middle	Low
No Change									
(count)	8	12	44	2	23	93	10	35	137
(col.%)	61.5	35.3	59.5	20.0	95.8	86.1	66.7	60.3	75.3
Change									
(count)	5	22	30	0	1	15	5	23	45
(col. %)	38.5	64.7	40.5	0.0	4.2	13.9	33.3	39.7	24.7

Note: Chi-square for "change" vs "no change" for total group by SER: $\underline{X}^2$ (1) = 5.13, $\underline{p}$ = 0.10

Table 12

Tabulation of Label Changes
per Grade Group, Preschool or Elementary
According to Number of Parents in the Home, One or Two

Observed Label	Preschool		Elementary		Total	
	One	Two	One	Two	One	Two
No Change						
(count)	22	43	55	78	77	121
(col. %)	53.7	57.3	84.6	85.7	72.6	72.9
Change						
(count)	19	32	10	13	29	45
(col. %)	46.3	42.7	15.4	14.3	27.4	27.1

Note: Chi-square for "change" vs "no change" for total group by number of parents in the home: $\underline{x}^2$ (1) = 3.15, $\underline{p} < 0.10$

When initial label and final label were analyzed with regard to sex within each grade group, some trends were identified. These results are presented in Tables 13 and 14. Examination of these tables showed that preschool males initially classified as EMR tended to change labels more than any other subgroup. They also tended to change to a greater variety of labels than any other subgroup. When elementary age EMR males changed classifications, they moved almost exclusively from EMR to regular class.

When type of label change was considered with regard to race within each grade group, it was found that the preschool, white, EMR children changed more frequently than any other subgroup. Although black EMR children showed relatively more change if first identified at the preschool level, overall they tended to be more stable than the white group. These changes are presented in Tables 15 and 16.

Discriminant function analysis was utilized to examine the effects of single variables and interactions between variables on label change. When all of the single independent variables were entered into the analysis and the stepwise procedure was invoked, the variables were selected in the following sequence: grade, initial label, sex, parent educational level, race, and number of parents in the home. This resulted in an accuracy of prediction of 77.85%. As reported previously, in the discussion of the first hypothesis, when grade group (preschool or elementary) was the only variable entered, 68.46% accuracy of prediction was obtained. Additional analysis was conducted to determine the extent to which subsequent variables improved the prediction accuracy.

Table 13

Change in Label for Preschool Group:
Initial Label by Final Label by Sex

Initial Label	Final Label EMR	 TMR	 SLD	 Regular Class	 Language Class	 EH
EMR						
Male	9	4	11	11	3	1
(row %)	23.1	10.2	28.2	28.2	7.7	2.6
Female	14	2	1	8	2	1
(row %)	50.0	7.1	3.6	28.6	7.1	3.6
TMR						
Male	7	19	3	1	0	1
(row%)	22.6	61.3	9.7	3.2	0	3.2
Female	2	11	0	0	0	0
(row%)	15.4	84.6	0	0	0	0
SLD						
Male	0	0	8	0	0	0
(row%)	0	0	100.0	0	0	0
Female	1	0	7	0	0	0
(row %)	12.5	0	87.5	0	0	0

Table 14

Change in Label for Elementary Group:
Initial Label by Final Label By Sex

Initial Label	Final Label EMR	TMR	SLD	Regular Class	Language Class	EH
EMR						
Male	46	0	1	15	0	0
(row %)	74.2	0	1.6	24.2	0	0
Female	40	0	2	4	0	0
(row %)	87.0	0	4.3	8.7	0	0
TMR						
Male	1	15	0	0	0	0
(row %)	6.2	93.8	0	0	0	0
Female	1	8	0	0	0	0
(row %)	11.1	88.9	0	0	0	0
SLD						
Male	1	0	31	0	0	0
(row %)	3.1	0	96.9	0	0	0
Female	1	0	5	0	0	0
(row %)	16.7	0	83.3	0	0	0

Table 15

Change in Label for Preschool Group:
Initial Label by Final Label by Race

	Final Label					
Initial Label	EMR	TMR	SLD	Regular Class	Language Class	EH
EMR						
White	15	5	12	14	3	2
(row %)	29.4	9.8	23.5	27.5	5.9	3.9
Black	8	1	0	5	2	0
(row %)	50.0	6.3	0	31.3	12.9	0
TMR						
White	5	17	2	1	0	1
(row %)	19.3	65.4	7.7	3.8	0	3.8
Black	4	13	1	0	0	0
(row %)	22.2	72.2	5.6	0	0	0
SLD						
White	0	0	12	0	0	0
(row %)	0	0	100	0	0	0
Black	1	0	3	0	0	0
(row %)	25.0	0	75.0	0	0	0

Table 16

Change in Label for Elementary Group:
Initial Label by Final Label by Race

Initial Label	Final Label EMR	TMR	SLD	Regular Class	Language Class	EH
EMR						
White	22	0	2	3	0	0
(row %)	81.5	0	7.4	11.1	0	0
Black	64	0	1	16	0	0
(row %)	79.0	0	1.2	19.8	0	0
TMR						
White	1	18	0	0	0	0
(row %)	5.3	94.7	0	0	0	0
Black	1	5	0	0	0	0
(row %)	16.7	83.3	0	0	0	0
SLD						
White	1	0	29	0	0	0
(row %)	3.3	0	96.7	0	0	0
Black	1	0	7	0	0	0
(row %)	12.5	0	87.5	0	0	0

The second step in the process sought to determine the improvement in classification rate due to consideration of initial label as well as grade group. Since initial label included all three classifications, EMR, TMR, and SLD, contrast coding was assigned, and these variables were forced into the analysis at a single level as initial label (IL) and initial label two (IL2). When grade and initial label were entered, a correct classification rate of 73.15% was attained. This confirmed that both grade and initial label were important variables in the determination of label change. The classification matrix and discriminant function equation for this step were reported in the discussion of the second hypothesis.

Next, to attempt to discover the specific contributions of sex and race, these were added to the analysis after grade group and initial label had been entered. This resulted in an accuracy of prediction of 74.83% which was only slightly higher than that previously obtained. Therefore, these two variables added only a small amount to the predictive power of the analysis, or perhaps the majority of their effects were accounted for when the first two variables had been entered. The classification matrix for this step is presented in Table 17. Examination of the matrix and comparison of these values with those presented in Table 4 showed that very little change in predictive ability for either the "change" or "no change" group was evident.

Table 17

Classification Matrix
Label Change as a Function of
Grade Group, Initial Label, Sex and Race

Observed Label	Number of Cases	Predicted Label	
		Change	No Change
No Change	213	49 23.0%	164 77.0%
Change	85	59 69.4%	26 30.6%

Note: Total percent of grouped cases correctly classified = 74.83%,

$\underline{F}$ = 39.28, df = 1,296, $\underline{p}$ = 0.01

The unstandardized canonical discriminant function equation at this step was written as

$$\text{change} = -0.40 + 0.84\,(\text{grade group}) + 1.05\,(\text{IL}) + (-0.30)\,(\text{IL2}) + 0.38\,(\text{sex}) + 0.17\,(\text{race})$$

The F value at step four when the variable, sex, was entered into the analysis was (1, 293) 8.4, $p < 0.01$. When race was entered in step five, the F value was (1, 292) 1.70, $p > 0.05$. The equivalent F (5, 292) was 16.90, $p < 0.01$.

Since parent education level and number of parents in the home, as demonstrated in the contigency table analysis, were found to have little influence on label change for this study, these variables were not included in the discriminant function analysis.

Finally, the analysis was run with grade group, initial label and the interaction between these two variables as the only elements. This resulted in a prediction rate of 78.52% which was higher than the previously obtained rates of prediction. This indicated that the two variables, grade group and initial label, and the interactions which existed between these variables (for example, in the total sample most changes occurred in the preschool group and the largest change in all the subgroups was seen in the EMR preschool children) resulted in the best possible accuracy of prediction. It did not mean that other variables were not important factors but suggested that their influence was accounted for by consideration of grade, initial label and their interaction.

Examination of the classification matrix at this step, presented in Table 18, showed that addition of the interaction term improved the ability to discriminate the cases belonging to the "no change" group but decreased the ability to distinguish between the cases in the "change" group.

The unstandardized canonical discriminant function equation was written as

$$\text{change} = -0.30 + 0.61\ (\text{grade group}) + 1.06\ (\text{IL}) + (-0.16)\ (\text{IL2}) + 0.58\ (\text{Int: grade group by IL}) + 0.12\ (\text{Int: grade group by IL2})$$

The F to enter for the first interaction term was (1, 293) 11.97, $p < 0.01$ and for the second interaction term the F to enter was (1, 292) 1.02, $p > 0.05$. The equivalent F (5, 292) equaled 17.35, $p < 0.01$. Appendix B presents other relevant statistics obtained in the step backward discriminant function procedure utilized for this portion of the analysis.

The information obtained from the contingency tables and the discriminant function analysis confirmed that interaction effects were present and supported rejection of the null hypothesis in regard to the interaction between grade group and initial label. However, complete interpretation of all interactions was prevented by the limitations of small number of cases and unequal sample sizes within subgroups.

Table 18
Classification Matrix

Grade Group, Initial Label and Interactions Between These Variables

Observed Label	Number of Cases	Predicted Label	
		Change	No Change
No Change	213	23 10.8%	190 89.2%
Change	85	44 51.8%	41 48.2%

Note: Total percent of grouped cases correctly classified = 78.5%,

$\underline{F}$ = 17.35, df = 5,292, $\underline{p}$ = 0.01

In summary, the findings from the data analysis confirmed that labels changed substantially more frequently among children initially labeled during preschool than elementary school years. Additionally, it was found that of the three labels in the study, EMR, TMR and SLD, the EMR label showed the greatest instability. Finally, it was determined that of all the subgroups examined, the preschool, EMR, white males showed more label change than any other subgroup. The implications from these findings will be discussed in Chapter V.

CHAPTER V
SUMMARY, MAJOR FINDINGS, DISCUSSION, SUGGESTIONS FOR FURTHER RESEARCH

Summary

The purpose of this study was to investigate the practice of labeling children for special education placement and to explore differences which might exist as these classification procedures were applied to preschool and elementary age students. The study was directed to the following questions:

1. Were labels applied to preschool children more unstable than labels applied to elementary age children?

2. Were some classifications more unstable than others? For the purposes of this study, the classifications under consideration were educable mentally retarded, trainable mentally retarded and specific learning disabled.

3. Were the label changes which occurred within the two groups influenced by time of initial classification, the type of label applied, individual characteristics such as the sex or race of the child, and factors such as level of parent education and single or dual parent homes?

4. Were the label changes influenced by interactions between the grade group (preschool or elementary) at the time of initial placement, the type of label applied, and the sex or race of the child?

Special education programs provided by the Orange County School Board in central Florida were the site of this study. Data were obtained from county records and psychological services files concerning placement of preschool age and elementary school age children in special education programs for educable mentally retarded, trainable mentally retarded and learning disabled children. Records spanning a four year period were reviewed and data were collected in regard to initial testing and placement recommendations, reevaluation results, level of parent education and number of parents in the home. The total sample included 298 students. This large group was composed of 127 children initially placed in special education programs as preschoolers and 171 children evaluated and placed after they had begun elementary school. The data were analyzed to answer the previously stated research questions.

Major Findings

It was determined that children classified and placed in special education programs during the preschool years changed labels more frequently than children classified and placed during the elementary school years, $\underline{X}^2$ (1) 34.91, $\underline{p}$ = 0.001. Within the preschool group, 59 (46.5%) of the students changed labels upon reevaluation and within the elementary age group, 26 (15.2%) changed labels after reevaluation. Discriminant function analysis showed that consideration of grade group, preschool or elementary, as the only independent variable with "change" or "no change" of label as the dependent variable enabled 68.42% accuracy of group prediction.

The type of label change was next examined. It was determined that, within the total sample, the EMR label changed significantly more frequently than either the TMR or SLD classifications, $\underline{X}^2$ (2) 22.19, $\underline{p} = 0.001$. Of the 175 students initially labeled EMR, 66 (37.7%) changed categories upon reevaluation. Of the 69 TMR's, 16 (23.2%) changed classifications and of the 54 SLD's, 3 (5.6%) changed classifications. Application of stepwise discriminant function analysis selected grade group and initial label as the two most influential variables, and their combined effect resulted in 73.15% correct prediction of group membership.

Finally, the "nature" of the label changes which occurred was explored. The importance of the variables of grade group, type of label, sex, race, parent education level and number of parents in the home was investigated in relationship to classification changes. Contingency table analysis showed that, for the total sample, the variables of sex, race, parent education level and number of parents in the home had minor influence on the incidence of label change. Overall, males tended to change categories more frequently than females, and whites changed labels more frequently than blacks. However, interpretation of interaction effects was complicated by unequal sample sizes and small numbers of cases within subgroups. In addition, the subgroups were sexually and racially identifiable with the preschool group preponderately male and white and the elementary group male and black.

When label change within the subgroups, preschool and elementary was analyzed, it was found that the EMR category showed the most instability with the greatest percentage of change occurring within the preschool, white males. The majority of these changes were from EMR to less severe placement. Within the preschool group, the TMR label also showed relative instability. Again, the group which evidenced greatest frequency of change was white and male. The majority of changes were transfers from TMR to EMR.

The interaction between grade group (preschool or elementary) and initial label, with regard to change of label, overshadowed the importance of other interactions for this sample. That is, changes occurred most frequently in the preschool group, and the majority of the changes were from EMR to a less severe category. When grade group, initial label and the interaction between these variables was included in the discriminant analysis, 78.5% correct prediction was attained.

Discussion

The increased incidence of label change within the preschool group may reflect difficulties encountered in testing young children. Review of the literature revealed that diagnostic testing of preschool children is limited by factors which are unique to this age group. Young children develop at different rates and a wide range of acceptable limits exists for many developmental tasks (Mercer et al., 1979). Diagnostic testing is hindered by reliance on instruments which have few items or poor standardization for lower age ranges (Divoky, 1974). Test performance is influenced by home factors, such as proper nutrition and care, and experiential factors, such as language stimulation and participation in preschool programs (Cataldo, 1981). Children are sometimes assessed for programs which are predicated on previous school performance. For example, preschool programs for children with learning disabilities are difficult to define because learning disabilities traditionally imply that the child has shown deficits in school subjects such as reading, writing or spelling (Keogh, 1977). A preschool child has not had the "opportunity to fail," and SLD placement is based on estimated potential rather than proven difficulty with academic tasks.

The frequency of label change in the preschool group may also be related to the efficacy of early intervention programs. During the 1960s, the Westinghouse evaluation of Head Start programs cast serious doubt on the impact of early intervention attempts (Westinghouse Learning Corporation and Ohio University, 1969). Subsequent investigation (Lazar & Darlington, 1979), however, found that gains which had been claimed to disappear by second grade in children who had attended Head Start reappeared again by the fifth grade. They also found a marked decrease in the continued need for exceptional education placement for handicapped children who had participated in early intervention programs.

One of the most extensive efficacy reports has been provided by the follow-up study of the Perry Preschool Project in Ypsilanti, Michigan (Schweinhart & Weikart, 1980). This project was established in 1962 for children who were socially deprived, slow learners or mildly retarded. The study has accumulated information on children who entered the Ypsilanti Project at age three and are now fifteen years old. Results indicate that, when compared to a control group which did not attend preschool, those children who received early intervention have maintained overall higher scholastic achievement, demonstrated higher motivation, placed higher value on schooling, been involved in less delinquent behavior, and required fewer special education assignments or support services.

Placement in special education programs is accomplished categorically because of the restrictions imposed by federal and state funding requirements (Hobbs, 1975b). Before a child is provided services, he must be evaluated by qualified educational specialists and be assigned to the appropriate exceptional education category. Although these labels are applied in an effort to provide the best educational program for the child, they indicate conditions of less than normal functioning and they segregate the child from his peers. The relationship between labels and expectations of deviant behavior has been well documented (Becker, 1963; Braun, 1976). Extensive investigation has also been made of self-fulfilling prophecy (Finn, 1972; Pippert, 1969; Rosenthal & Jacobson, 1968) and particularly of the effect of teacher expectation on student behavior (Brophy & Good, 1970; Rist, 1970). Numerous studies have established the importance of expectancy effects in the use of special education labels (Algozzine et al., 1977; Mercer et al., 1979; Ysseldyke & Foster, 1978).

Analysis of the data from the present investigation supported the literature which indicated that diagnostic evaluation of preschool children is a tenuous process. The relatively high incidence of label change may also reflect the efficacy of early intervention efforts. Regardless of the reason, the classification changes which occurred must have presented a confusing picture for parents and teachers whose expectations were influenced by the labels the children carried.

Reaction of parents to identification of a handicapped child has been related to the grief process attendant to any substantial loss. Clinical studies have identified the grief process as a passage through stages of shock, despair, guilt, withdrawal, acceptance and finally adjustment (Parks, 1977). As an extension of this explanation, other researchers (Wikler, Wasow & Hatfield, 1981) have suggested that parents must go through this process over and over again as they encounter new crisis periods such as entry into school, a birthday, or any incident which again declares the "difference" or "deviancy" of their child. Rather than reaching adjustment they become involved in a life situation which the authors termed chronic grief.

Bray, Coleman and Bracken (1981) investigated the significance of a variety of interpersonal, intrapersonal and situational events on families with handicapped children. Their subjects included 169 families with children with handicaps such as mental retardation, learning disabilities, emotional disturbance and physical handicaps. Their survey results indicated that the six events most significant to parents included securing appropriate educational services, receiving the initial diagnosis, intrapersonal family member impact, medical management, incomplete/inaccurate diagnosis and prognosis. Two of these concerns, initial diagnosis and incomplete/inaccurate diagnosis, are particularly relevant to the practice of labeling preschool children. These findings illustrate the importance of special education classifications to parents. Parents view these labels as serious pronouncements and, like a medical diagnosis, rely on their accuracy. If they are given incorrect information, parents experience needless anxiety.

The presence of a handicapped child has also been shown to effect family relationships and stability. Price-Bonham and Addison (1978), in a review of the literature, found that family stress, the divorce rate, and the suicide rate were increased among parents of handicapped children. Cummings (1970) reported increased depression, lack of self-esteem and poor relationship gratification between parent and child among fathers of mentally retarded children when compared to fathers of normal children.

When professionals assign labels to children which declare them as "exceptional," they automatically attach expectations concerning that child's behavior. They affect attitudes of the parents, relationships in the family and the performance of the child. Because of these extenuating circumstances, it is crucial that special education labels be used with caution. If labels applied to preschool children are relatively unstable over time, then the advantage of providing special programs may be outweighed by the disadvantages of the labeling process. It is possible that alternative placement methods, such as noncategorical programs, should be considered.

The "Labeling Game" (Hedges, 1980) is played frequently and perhaps this is understandable under the present funding conditions. But it is a practice which is subject to error and which carries the possibility of enduring consequences. Because of the effects of labels, special educators must monitor their use and modify their application when necessary.

Suggestions for Further Research

The results of this study suggest the following areas for additional research:

1. This investigation was limited to one county school system. It could be replicated in counties with different demographic conditions or, on a larger scale, utilizing data from several counties or states.

2. This study did not consider other groups of exceptional children including those initially labeled emotionally handicapped, language disordered, hearing impaired, vision impaired or physically handicapped. Comparison of labeling practices among these groups might yield valuable information.

3. Although studies such as the longitudinal analysis of the Perry Preschool Program (Schweinhart & Weikart, 1980) have verified that early intervention programs are effective, a longitudinal study to determine the outcome of children served in Orange County early intervention programs has not been conducted. The present investigation has shown that classification changes occurred relatively more frequently within the preschool group, but information was not obtained on the length of time children retained their new placement.

For example, it was not determined how long children transferred to regular class were able to keep pace with their classmates and remain in that placement. A longitudinal investigation within the Orange County School System could utilize the subjects assembled for the present study. The results of such an investigation could be extremely helpful for future program planning.

4. Questions concerning parental understanding and acceptance of labels applied to preschool children were suggested as the data were gathered for this study. Although the labels were explained to parents when their children were placed in special classes, it was difficult to determine if parents fully understood their implications. For example, could parents differentiate between terms such as educable mentally retarded and trainable mentally retarded? If their child was called learning disabled, could they comprehend the educational meaning of this term? The case files accumulated for this study could be utilized to obtain information concerning these issues.

5. The results of this study strongly suggest the need for investigation of methods of funding programs for preschool exceptional children. Rather than including this age group with all other age groups and basing allocations on student counts, alternative procedures could be developed. Possibilities might include provision of funds based on county or state populations, previously demonstrated incidence of children who required special services, or evidence of particular need for expansion of early intervention programs.

6. If funding procedures were different, then alternative placement procedures could be considered for preschool children. Specifically, noncategorical classrooms which could provide special education services without the disadvantages associated with labeling have been suggested. Studies on the efficacy of early intervention programs have compared early education models to determine the single best approach, but it has been found that various curricula are effective. The success of programs may be due to common qualities rather than individual differences (Moore, Fredericks & Baldwin, 1981). Because of these observations, as well as the dangers associated with labeling, changes in special education delivery systems, including establishment of noncategorical resource rooms (Idol-Maestas, Lilly & Lloyd, 1981) or noncategorical self-contained classes are being implemented. Comparative studies between traditional categorical programs and the newer noncategorical approaches are needed in areas such as pupil progress, differences in expectancy effects on parents and teachers, and methods of teaching.

7. PL 94-142 carries within its provisions the mandate that exceptional children be provided an education in the least restrictive environment. Schools are attempting to fulfill this requirement by mainstreaming, that is, placing special education students in regular classes for particular subjects or for portions of the school day. At the preschool level, peer imitation and interactive play offer an opportunity for growth in understanding, development of cooperative and compassionate attitudes, and the possibility for a challenging

environment for both the normal and the handicapped child (Cooke, Ruskus, Apolloni & Peck, 1981; Guralnick, 1981; Vincent, Brown & Getz-Sheftel, 1981.) The combination of the advantages of mainstreaming and noncategorical placement is an area which invites current research. Theoretically, it should be easier and more effective to mainstream exceptional education students who have not been assigned special education labels. Follow-up studies which compare the social adjustment and academic progress of labeled versus nonlabeled preschool exceptional education students are needed to determine the importance of and best methods of mainstreaming this age group.

Conclusion

Classification of children for special class placement is an organizational tool which has enabled us to fund programs and administer specialized services for students. But labels applied to human beings are not simple tags which can be assigned, reassigned, changed, or removed without consequence. Investigations are continuing on the process of labeling and the hidden meanings which labels may possess. Classification of preschool children is an area which offers more questions than answers and has many opportunities for continued research.

In an article on future trends in education of preschool handicapped children, Anastasiow (1981) referred to Arthur Miller's play, All My Sons, in which the statement was made that a person's responsibility for his acts extends beyond himself to all who are affected by those acts. In the play, the passage referred to a manufacturer of airplane parts. His responsibility for producing quality parts extended to all those who flew in his planes. The findings of this study demonstrated the particular relevance of these remarks to the classification of preschool children. When special educators categorize children, they must acknowledge that their responsibility extends to the child, parents, teachers and all who are affected by that label. It is hoped that the results of this study will encourage school systems to consider alternative means of funding programs for this age group and perhaps eliminate the need for labeling these young children.

APPENDIX A

DISCRIMINANT FUNCTION ANALYSIS STEPWISE PROCEDURE

Discriminant Function Analysis (Stepwise Procedure)

	Variable	F to Enter	F to Remove	Equivalent F
Step 1	Grade	39.28	39.28	
				39.28, df (1,296)
Step 2 & 3	Grade		45.08	
	IL	27.46	29.24	
	IL2	0.18	1.90	
				24.12, df (3,294)
Step 4 & 5	Grade		40.01	
	IL		35.65	
	IL2		2.05	
	Sex	8.4	8.66	
	Race	1.4	1.70	
				(Step 4) 20.65, df (4,293)
				(Step 5) 16.90, df (5,292)

Summary

Variable	Unstandardized Canonical Discriminant Function Coefficient	Wilkes Lambda	Significance
Grade	0.84	0.88	0.000
IL	1.05	0.81	0.000
IL2	-0.30	0.80	0.000
Sex	0.38	0.78	0.000
Race	0.17	0.77	0.000
(Constant)	-0.40		

APPENDIX B

DISCRIMINANT FUNCTION ANALYSIS STEP BACKWARD PROCEDURE

Discriminant Function Analysis (Step Backward Procedure)

	Variable	F to Enter	F to Remove	Equivalent F
Step 1	Grade	39.28	39.28	
	IL	23.74		
	IL2	3.06		
	Int. 1	18.35		
	Int. 2	0.71 - 01		
				39.28, df (1,296)
Step 2 & 3	Grade		45.09	
	IL	27.46	29.24	
	IL2	0.18	1.90	
	Int. 1	3.06		
	Int. 2	0.19		
				24.12, df (3,294)
Step 4 & 5	Grade		17.44	
	IL		36.61	
	IL2		0.55	
	Int. 1	11.97	10.87	
	Int. 2	1.03	0.31-02	
				17.35, df (5,292)

Summary

Variable	Unstandardized Canonical Discriminant Function Coefficient	Wilkes Lambda	Significance
Grade	0.61	0.88	0.000
IL	1.06	0.81	0.000
IL2	-0.16	0.80	0.000
Int. 1	0.58	0.77	0.000
Int. 2	0.12-01	0.77	0.000
Constant	-0.30		

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BIOGRAPHICAL SKETCH

Patricia Maher was born in Van Wert, Ohio, in 1942. Her family moved to Florida in 1946 where she received her elementary and secondary education. She graduated from Bishop Moore High School, valedictorian, in 1960.

She received her Bachelor of Science degree in pre-medicine, biology, graduating "With Distinction" from Rollins College, Winter Park, Florida. She completed a year's internship in medical technology and worked for three years as a medical technologist in hospitals within the Orlando area.

In 1969 she attended the University of Virginia in Charlottesville and obtained a Master of Education degree in education of emotionally disturbed children. She returned to Orlando and has been employed by the Orange County School Board since 1970. She has worked with various classifications of exceptional children including emotionally handicapped, mentally retarded, and learning disabled.

During this time she also completed courses at the University of South Florida, Florida State University and the University of Central Florida to obtain certification in school psychology. She has served as the psychologist for the preschool diagnostic center in Orange County, Florida, for the past six years.

She is currently completing the doctoral program in curriculum and instruction, instructional leadership, at the University of Florida.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Arthur J. Lewis

Arthur J. Lewis, Chairman
Professor, Instructional Leadership
and Support

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Barry J. Guinagh

Barry J. Guinagh
Associate Professor, Foundations
of Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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This dissertation was submitted to the Graduate Faculty of the Division of Curriculum and Instruction in the College of Education and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

May, 1982

Dean for Graduate Studies and Research